MRC Council Study

Assessing impacts on the hydrology and the environment:

Ecosystems and Bioresources

prepared by BioRA Team
This presentation

• Nature and functioning of river systems
  – Linkages
  – Flow of water and sediment
  – Movement of animals

• BioRA
  – Focal areas
  – Indicators
  – Knowledge base
  – Outputs
Nature and functioning of river systems
Human circulatory system versus river system
Inter-connected and inter-dependent
Timing and function of flow regime

- **Variability:**
  - promotes biodiversity
  - discourages invasions

- **Life history patterns:**
  - migration
  - spawning
  - emergence

- **Connectivity:**
  - lateral
  - longitudinal

- **Discharge**

- **Month of a year**
Timing and function of sediment regime

Rivers transport sediments and carve landscapes
Migration of fish species: routes, timing and triggers

- **Large Cypinids** esp. *Bengana*, *Labeo*
- **Medium-sized Cypinids** esp. *Scaphognathops*, *Mekongina*, *Labeo*, *Bengana*, *Cirrhinus*
- **Black species** esp. *Channa*, *Clarias*
- **Small Cypinids** esp. *Henchorhynchus*, *Paralabuca*, *Labiobarbus*, *Cirrhinus*
- **Large Pangasids**

Migration:
- **Upstream**
- **Downstream**
Biological Resources Discipline (BioRA)
Task of BioRA

CAUSE
- flow regimes
- sediment regimes
- water chemistry and temperature regimes
- barriers

EFFECT
- habitats
- fauna and flora (biodiversity)
- ecosystem services on which people depend.